

Excerpt from Volume One of 1998 New Jersey Mercury Task Force Report: Executive Summary and Recommendations

Goals, Milestones, and Key Recommendations

OVERALL GOALS

The Task Force advocates an overall goal of the virtual elimination of anthropogenic uses and releases of mercury. This goal is consistent with the Mercury Action Plan adopted by the Conference of the New England Governors and Eastern Canadian Premiers.

Removing mercury from products is an important part of this effort. The toxicity and persistence of mercury in the environment, and the statewide existence of high levels of mercury in fish, require that New Jersey move on as many fronts as possible to eliminate additional mercury discharges, emissions, and associated deposition. Regional, national, and global actions are also necessary because long-range transport of mercury results in widespread mercury pollution. Reduction of mercury releases will have collateral benefits, such as the reduction of other important environmental pollutants.

MILESTONES

The Task Force recommends that the State of New Jersey adopt a two-step milestone of a 75 percent reduction in air emissions below estimated 1990 levels by 2006 and an 85 percent reduction below 1990 levels by 2011. Looking forward, these milestones will require a greater than 50 percent reduction below estimated 2001 air emissions by 2006 and a greater than 65 percent below estimated 2001 levels by 2011. See Figures 1.5 and 1.6 below.

Figure 1.5

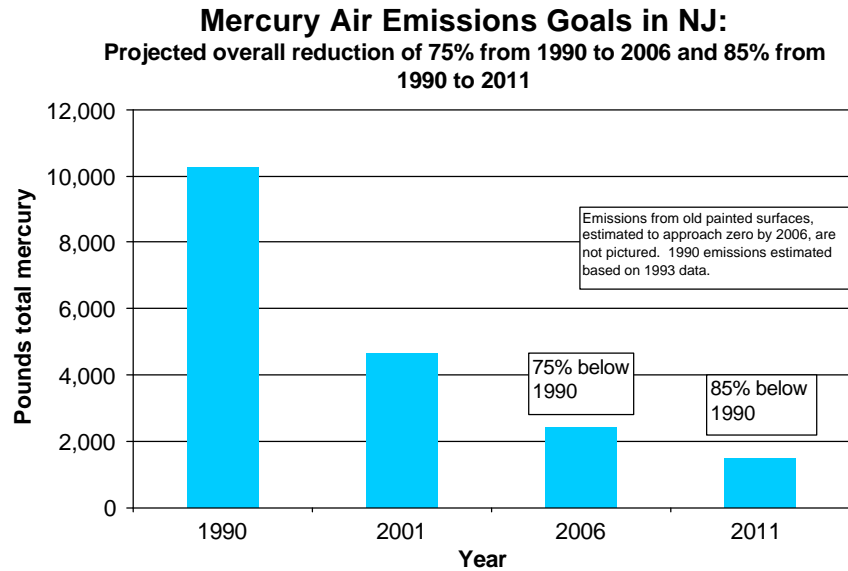
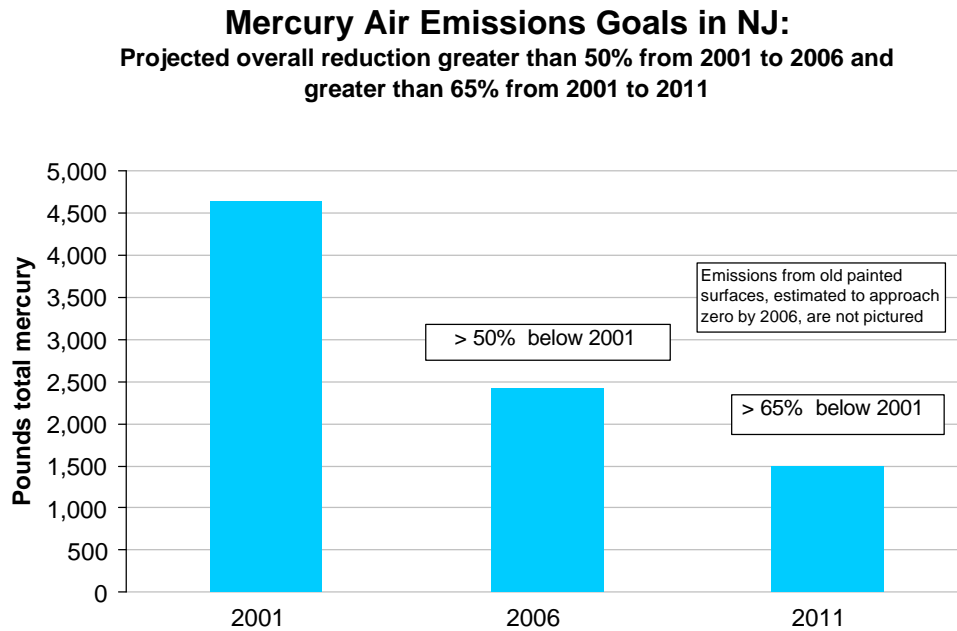


Figure 1.6



KEY RECOMMENDATIONS

The Task Force has found that numerous actions are needed to achieve the New Jersey air emissions reduction milestones. These milestones are based on the Task Force's assessment that realistic reduction of mercury from various sources can be achieved in New Jersey. Certain recommendations are considered key recommendations in that, if implemented, they could make large contributions to reductions in mercury uses or emissions and eventually lead to reductions of mercury in fish tissue. There is evidence from studies conducted in Florida that reducing air emissions can lead to reductions of mercury in fish tissue over a relatively short time period. Other key recommendations presented here are especially important in addressing critical knowledge gaps regarding mercury fate, transport, and exposure and in guiding public health outreach. The key recommendations are as follows (additional details and recommendations are provided in Volumes 2 and 3):

- A. Participate in and support regional, national, and global efforts to reduce mercury uses, releases, and exposures.** This is important to New Jersey because a significant portion of mercury in the State's environment originates from emissions elsewhere. Examples of efforts include the following: the Conference of the New England Governors' and Eastern Canadian Premiers, Northeast States for Consolidated Air Use Management (NESCAUM), Environmental Council of the States (ECOS) and U.S. Environmental Protection Agency (U.S. EPA) Mercury Action Plan.
- B. Remove mercury from products** and phase out sales of mercury-containing products for which there are reasonably available alternatives. In order to accomplish this, New Jersey should:
1. Adopt legislation that reflects the provisions of the Mercury Education and Reduction Model Act prepared by the Northeast Waste Management Officials' Association (NEWMOA), as part of the New England Governors' Mercury Action Plan. This plan addresses mercury-containing products, such as thermometers, thermostats, switches (including those in motor vehicles and appliances), and fluorescent lights, and limits the sale of mercury to approved purposes.
 2. Develop effective outreach and education on the importance of removing mercury from products. County household hazardous waste programs should play a key role in this effort.
 3. Encourage phasing out the use of mercury-containing amalgams to the extent compatible with good dental practices, to further limit mercury releases to the environment.
 4. Use state purchasing and service contracts to reduce the purchase and use of products containing mercury, including motor vehicles containing mercury switches.
 5. Ensure that substitutes for mercury are not more hazardous than the mercury itself.
 6. Work with interstate organizations to assist in the development of federal legislation that minimizes the use of mercury in products.

C. Reduce emissions of mercury from the production of electricity consumed in New Jersey, including electricity generated by out-of-state sources. To accomplish this, New Jersey should:

1. Promote energy efficiency with measures consistent with the NJDEP Greenhouse Gas Sustainability Action Plan.
2. Promote the increased use of electric power from certified green sources including renewable sources and sources with low or zero mercury emissions.
3. Require environmental information disclosure of mercury emissions per kilowatt-hour from all providers selling electricity in New Jersey consistent with The New Jersey Electric Discount and Energy Competition Act (EDECA) of 1999 (N.J.S.A. 48: 38).

D. Significantly reduce air emissions from coal combustion. To accomplish this, New Jersey should:

1. Urge the U.S. EPA to rapidly develop and implement stringent limits on mercury emissions from coal combustion. These standards should include output-based performance limits (mg/MW-hr), which are applied to individual coal-fired power plants, in addition to national caps (tons/year), which are applied to the electric generation source category as a whole.
2. Adopt State standards if, by December 2003, U.S. EPA does not proceed to promulgate and implement effective mercury limits on coal combustion.
3. Work with interstate organizations to assist in the development of federal multi-pollutant legislation that limits mercury emissions as well as other pollutants.

E. Significantly reduce air emissions from iron and steel and other secondary smelting industries. To accomplish this, New Jersey should:

1. Urge the federal government to require the rapid phase out of the use of mercury-containing products in new vehicles. Following the lead of other states, New Jersey should consider banning the sale of vehicles containing mercury products.
2. Implement a phased strategy to reduce mercury contamination of scrap through elimination and separation measures. If, after a 3-year period, the source reduction measures do not achieve emission reduction goals, require the installation of air pollution control.
3. Ensure that measures to reduce mercury contamination of scrap are developed through a cooperative process involving government agencies and affected industries, including automobile manufacturers, automobile recyclers, and those who crush, shred, or otherwise process scrap metal.
4. Determine the amount of mercury emitted from secondary aluminum smelting and require reduction if significant.

F. Ensure the minimization of mercury emissions from other sources. To accomplish this, New Jersey should:

1. **Medical Waste Incinerators** - Adopt the NEGA/ECP (New England Governors and Eastern Canadian Premiers) recommended emission limit for medical waste incinerators. All New Jersey medical waste incinerators already have achieved this

level with pollution prevention measures. Adopting a limit will prevent backsliding and help provide an example to other jurisdictions.

2. **Sewage Sludge Incinerators** - Revise the State's sewage sludge mercury rules to reflect a phased reduction in mercury levels to meet the Task Force's goal of 2 ppm within 10 years. Consider a stack emission standard such as the New England Governors Association's recommended emission standard for sludge incineration facilities as an alternative to the final sludge concentration goal.
3. **Municipal Solid Waste Incinerators** – Consider revising the State's air pollution control regulation governing Municipal Solid Waste Incinerator (MSWI) emissions to include U.S. EPA's higher efficiency requirement for post-combustion emissions controls, thereby changing New Jersey's alternative limit based on efficiency from 80% to 85%. The 28µg/dscm primary requirement would remain the same.
4. **Other** - Develop methods to appropriately regulate and otherwise manage the disposal of discarded mercury-containing products, including fluorescent bulbs, dental amalgam waste, thermostats and switches.

G. Expand and institutionalize routine monitoring for mercury in fish from New Jersey waters through State-level programs.

H. Actively encourage the federal government to initiate and maintain comprehensive monitoring and surveillance for mercury in commercial fish and to require that information regarding the mercury content of fish be made readily available. If the federal government does not initiate nation-wide evaluation of commercial fish, New Jersey should, with other states in the region, monitor mercury in commercial fish.

I. Expand and periodically evaluate the effectiveness of current outreach, advisories and education efforts to reduce exposures to mercury of sensitive populations, subsistence fishermen, and others who consume large quantities of fish. To accomplish this, New Jersey should:

1. Increase public awareness of the public health concerns regarding mercury in fish and the need to reduce the emissions and releases to the State's waterbodies.
2. Expand outreach on fish advisories, particularly for sensitive populations, subsistence fishers, and others who consume large quantities of fish.

J. Reduce exposures from cultural uses of mercury. To accomplish this, New Jersey should:

1. Complete research and evaluate available data on cultural uses and associated exposures.
2. Provide outreach and education materials to communities and health professionals.
3. Develop and implement appropriate legislation and regulations that limit the sale of elemental mercury, except for medical and other approved uses, reflecting the NEWMOA model legislation.

- K. Develop comprehensive mercury budgets for New Jersey watersheds that include inputs from air deposition, in order to develop appropriate total maximum daily loads (TMDLs).** To do this, New Jersey should:
1. Utilize the most recent information developed through the U.S. EPA's pilot mercury TMDL development projects.
 2. Determine the relative mercury contribution to aquatic systems from various sources and from repositories in environmental media.
- L. Maintain and enhance a long-term air deposition monitoring system** that incorporates state-of-the-art detection limits and speciation to document temporal and spatial trends in mercury deposition.
- M. Address critical information gaps** concerning the quantities and chemical species of mercury emissions and releases, the fate and transport of mercury in the environment, and the exposure pathways. To accomplish this, New Jersey should:
1. Upgrade procedures used in all monitoring programs to include state-of-the-art analytical methods to provide lower detection limits for mercury and mercury speciation.
 2. Employ a state-level, long-range dispersion model for mercury using the up-to-date emissions inventories including the inventory developed by the Mercury Task Force.
 3. Encourage federal agencies to expand existing national research on the ecological effects of mercury, particularly on piscivorous (fish-eating) fish, birds and mammals (particularly marine mammals).
 4. Identify demographic characteristics and exposure patterns of population groups in New Jersey that consume large quantities of fish.
 5. Consider establishing the mercury-contaminated sites in the Berry's Creek area as an Environmental Research Park, patterned on the National Environmental Research Park system. This could serve as a resource for studies and monitoring of the complex processes governing the fate and transport of mercury in both the terrestrial and estuarine environment.
- N. Support the development of effective methods of retiring and sequestering mercury** so that the chances of the eventual release of mercury to the environment are minimized.
- O. Develop improved environmental indicators** of the impact of mercury on New Jersey's environment. To accomplish this, New Jersey should:
1. Expand and maintain a statewide ground water monitoring program for mercury.
 2. Develop and apply indicators of trends of mercury in environmental media, including air deposition, mercury concentrations in surface water, mercury entry into aquatic food chains, mercury levels in fish tissue, mercury levels in human tissue in the New Jersey population, and mercury levels in feathers of piscivorous birds nesting in New Jersey.
- P. To provide for the implementation of the recommendations in this report,** New Jersey should:

1. Form within the New Jersey government, a multi-agency committee, including the Department of Environmental Protection, Department of Health and Senior Services, Department of Transportation and the Board of Public Utilities, to advocate the implementation of the recommendations and to report periodically to the Legislature and the Commissioner of the NJDEP on progress toward achieving the mercury milestones.
2. Establish the position of an environmental mercury coordinator in the NJDEP as has been done in other states.

Q. Reduce mercury levels in fish and other biota. Mercury concentrations in freshwater and estuarine fish in New Jersey should, at a minimum, be in compliance with the EPA's recent Surface Water Criterion of 0.3 µg/g methylmercury in tissue. This guidance value, aimed at protecting human health, may not be adequate to protect the health of the fish. Therefore mercury levels in surface water and fish tissue should achieve levels protective of aquatic life and of wildlife (the criterion for which is currently under development). Assessing this criterion requires the use of improved analytic methodologies that lower detection levels by at least an order of magnitude.

In addition to these key recommendations, the Task Force made five interim recommendations, which are included as an appendix at the end of this volume.